UNITED STATES PATENT AND TRADEMARK OFFICE

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL
AND APPEAL BOARD

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Ex parte ANDREAS DRECHSLER and RIJK EDWIN OOSTERBROEK

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Appeal 2015–003368
Application 13/325,631
Technology Center 1700

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Before TERRY J. OWENS, BEVERLY A. FRANKLIN and AVELYN M.
ROSS, *Administrative Patent Judges*.

FRANKLIN *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants request our review under 35 U.S.C. § 134 of the

Examiner's decision rejecting claims 1–8. We have jurisdiction over the

appeal under 35 U.S.C. § 6(b).

STATEMENT OF THE CASE

Claim 1 is illustrative of Appellants' subject matter on appeal and is set forth below (with text in bold for emphasis):

1. A cuvette for photometric measurement of liquids comprising:

a body having outer walls and an inner space for receiving liquids, said body comprising

an upper part comprising an upper open top portion and an inner surface **having in a plane A-A a first annular or substantially rectangular cross-section** with four upper inner edges, the upper inner edges extending from the plan A-A to the upper open top portion,

a lower measurement chamber with an inner volume less than about 50 µL comprising a lower closed bottom portion, a lower front wall, a lower back wall, two lower side walls, said lower walls forming four lower inner edges and a lower open top portion **with a second substantially rectangular cross-section in a plane B-B** smaller than the first annular or substantially rectangular cross-section in the plane A-A, wherein at least the lower front wall and the lower back wall have portions which are substantially planar and substantially parallel to each other, and

an abrupt transition zone between the upper part and the lower measurement chamber, extending between the plane A-A and the plane B-B and comprising four transition inner edges connecting the four lower inner edges to the upper part, wherein the plane A-A and the plane B-B are substantially perpendicular to the longitudinal axis of the cuvette, wherein the plane A-A is different from the plane B-B, and wherein

at least in the plane B-B the lower inner edges are sharp or comprise fillets having a first radius,

in the phase A-A the first annular cross-section has a second radius or the upper inner edges comprise fillets having a second radius, the second radius being larger than the first radius,

the transition inner edges comprise fillets having a gradually increasing radius passing from the sharp edges or the first radius of the lower inner edges in the plane B-B to the second

**radius of the first annular cross-section or of the upper inner
edges in the plane A-A.**

The Examiner relies on the following prior art references as evidence
of unpatentability:

Koch   US 5,571,479   Nov. 5, 1996
Murakami   US 2008/0141784 A1   Jun. 19, 2008
Havard   US 2010/0238436 A1   Sep. 23, 2010

THE REJECTIONS

1.   Claims 1–7 are rejected under 35 U.S.C. § 103(a) as being
unpatentable over Murakami in view of Havard.

2.   Claim 8 is rejected under U.S.C. § 103(a) as being unpatentable over
Murakami in view of Havard and further in view of Koch.

ANALYSIS

We reverse each rejection for substantially the reasons presented by
Appellants in the record, and add the following for emphasis.

Rejections 1 and 2

It is the Examiner's position that Murakami teaches the claimed
elements as discussed on pages 2–3 of the Final Office Action. The
Examiner states that Murakami does not specifically disclose that the
transition inner edges comprise fillets having a gradually increasing radius
passing from the sharp edges or the first radius of the lower inner edges in

the plane B-B to the second radius of the first annular cross-section or of the upper inner edges in the plane A-A. Final Act. 3. The Examiner states that such a transition "seems natural" because plane B-B has a smaller radius, and plane A-A has larger radius, the transition from plane B-B to plane A-A by gradually increasing the radius is an obvious alternative choice to suddenly increasing the radius. *Id.* The Examiner further relies upon Havard for teaching transition inner edges comprising fillets having a gradually increasing radius passing from the sharp edges or the first radius of the lower inner edges in the plane B-B to the second radius of the first annular cross-section or of the upper inner edges in the plane A-A, and refers to Figure 1B and paragraph [0024] of Havard. *Id.* The Examiner concludes that it would have been obvious to have provided transition inner edges comprising fillets having a gradually increasing radius passing from the sharp edges or the first radius of the lower inner edges in the plane B-B to the second radius of the first annular cross-section or of the upper inner edges in the plane A-A, in order to make the transition as smooth as possible, because gradually increasing the radius in the transition is an obvious alternative choice to suddenly increasing the radius, and obvious to try. *Id.*

Appellants argue, *inter alia*, that Murakami fails to disclose that the transition inner edges comprise fillets having a gradually increasing radius passing from the sharp edges or the first radius of the lower inner edges in the plane B-B to the second radius of the first annular cross-section or of the upper inner edges in the plane A-A. Appeal Br. 9–10. Appellants argue that Havard also fails to remedy the deficiencies of Murakami. Appellants submit that Havard's cuvette does not have an abrupt transition between the

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upper body and the lower body as recited in claim 1 but, instead, has a
gradual tapering transition as can be seen in Havard's Figure 1C. Appeal Br.
10. Appellants refer to their Figure 4. Appeal Br. 10–16. Appellants'
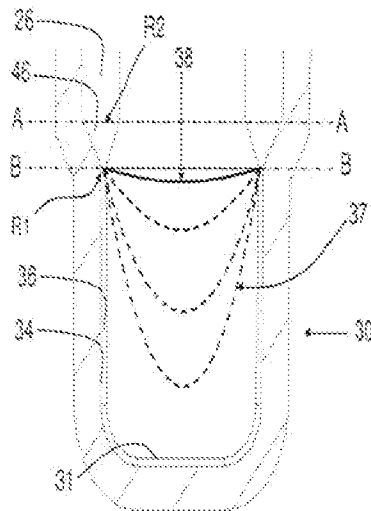Figure 4 is shown below.

FIG. 4

Figure 4 shows the effect of the geometry of the cuvette of Figure 1
on the liquid meniscus.

Appellants explain that the abrupt transition (as shown in Figure 4)
between the upper part and the lower measurement chamber can result in
advantages over the prior art. Appeal Br. 10–11. Appellants point out that
the more abrupt the transition is, i.e., the stronger the change in radius and

the shorter the distance in which the radius changes, the stronger the surface energy is, i.e., the energy barrier at the edges in the plane B-B, preventing the liquid to rise above the plane B-B so that as much as the liquid as possible is available for measurement (see, e.g., Spec. para. [0038]) and line 38 in Figure 4). Appeal Br. 10–11. Appellants state that, in other words, the distance between the plane A-A and B-B is short compared to the distance between the plane A-A and the upper open top portion and compared to the distance between plane B-B and the lower closed bottom portion and will result in substantially flat meniscus (see, e.g., Figure 4 and paras. [0038], [0079] and [0093] of the Specification). Appeal Br. 11. Appellants further explain how the applied art does not suggest the claimed configuration for the reasons set forth on pages 9–15 of the Appeal Brief.

In reply, the Examiner states that Murakami teaches abrupt transition between upper and lower body. Ans. 6. The Examiner also states that Murakami teaches various designs including gradual increasing radius in inner edges. *Id.* The Examiner states that the gradual increase radius is apparent when Murakami is taken as a whole and in view of Havard. Ans. 6–7. The Examiner also states that "fillets having a gradually increasing radius between upper body and lower body" is one of the finite number of identified predictable solutions to the transition from plane B-B to plane A-A. The Examiner states that Murakami has the first solution (abrupt transition), and that Harvard has the second solution (gradual transition), and that both solutions have predictable results. The Examiner concludes that the solution of Harvard is obvious to try. Ans. 8.

However, the Examiner overlooks an important point made by Appellants on pages 8 and 11 of the Appeal Brief. Therein, Appellants point

out that Havard's gradual transition passes from a box-shaped lower body to a conical upper body (see para. [0024]). Appeal Br. 11. This differs from the claim language requiring that the gradual transition passes from the sharp edges or the first radius of the lower inner edges in the plane B-B to the second radius of the first annular cross-section or of the upper inner edges in the plane A-A, wherein both the A-A plane and the B-B plane have substantially rectangular cross-sections. While we appreciate that the Examiner relies upon Murakami's Figure 11 (Ans. 6–8) for supposedly teaching abrupt transition inner edges that comprise fillets having a gradually increasing radius passing from the sharp edges or the first radius of the lower inner edges in the plane B-B to the second radius of the first annular cross-section or of the upper inner edges in the plane A-A (Appellants dispute this finding (Appeal Br. 9–10)), we are in agreement with Appellants' interpretation of Murakami in this regard. Figure 11 of Murakami shows distinct regions, but lacks indication of fillets as interpreted by the Examiner. Figure 11 of Murakami is reproduced below.

FIG.11
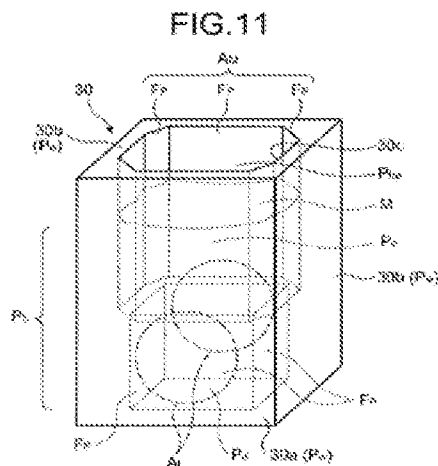
The Examiner has not adequately explain how Figure 11 supports the Examiner's stated interpretation. Ans. 6–8. In the findings made on pages 2–4 of the Final Office Action, there is no mentioned of Murakami's Figure 11.

Additionally, as stated by Appellants on page 11 of the Appeal Brief, the Examiner's rationale lacks an apparent reason for making the proposed modification of Murakami. In other words, the idea that the claimed transition "seems natural" or is an obvious alternative choice to suddenly increasing the transition (as stated by the Examiner, discussed, *supra*) is not sufficiently buttressed by evidence or reasoning. *See In re Vaidyanathan*, 381 Fed.Appx. 985, 994 (Fed. Cir. 2010) (non-precedential) ("*KSR* did not free the PTO's examination process from explaining its reasoning. In making an obviousness rejection, the examiner should not rely on conclusory statements that a particular feature of the invention would have been obvious or was well known. Instead, the examiner should elaborate, discussing the evidence or reasoning that leads the examiner to such a conclusion.").

Furthermore, as argued by Appellants, the proposed modification inadequately addresses an element of claim 1 (that being that the gradual transition passes from the sharp edges or the first radius of the lower inner edges in the plane B-B to the second radius of the first annular cross-section or of the upper inner edges in the plane A-A, wherein both the A-A plane and the B-B plane have substantially rectangular cross-sections) for the reasons stated by Appellants in the record. The teachings relied upon in Havard is not within the context of substantially rectangular cross-sections.

"[T]he prior art reference (or references when combined) must teach or suggest all the claim limitations." *In re Royka,* 490 F.2d 981, 985 (C.C.P.A. 1970).

In view of the above, we are persuaded by Appellants' arguments, and we reverse Rejection 1. The Examiner does not rely upon Koch (applied in Rejection 2) to cure the stated deficiencies of the combination applied in Rejection 1, and we therefore reverse Rejection 2 also.

DECISION

Each rejection is REVERSED.

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ORDER

REVERSED